
From: Walker, Tina (DSHS) [Tina.Walker@dshs.state.tx.us]
Sent: Tuesday, December 17, 2013 1:38 PM
To: willampaskey@yahoo.com
Subject: Dioxin information

Mr. Paskey,

In response to our phone conversation, you expressed concerns that you, your girlfriend, your daughter, and other family members have been exposed to high levels of dioxins from swimming in the San Jacinto River. I wanted to send you some information not only about dioxins themselves but the type of health effects associated with exposure, and information regarding testing for dioxin exposures.

Dioxins are a group of 210 chemicals with similar structures and chemical properties. When found in the environment, dioxins are usually a mixture of some, or all, of these chemicals. They are the by-products of various industrial processes such as bleaching paper pulp and chemical and pesticide manufacturing. They also come from some combustion activities like burning household trash or brush, forest fires, and municipal and medical waste incineration. Dioxins are found at low levels throughout the world in air, soil, water, sediment, and in foods like meats, dairy, fish, and shellfish.

Dioxins are stable chemicals and can last for many years in the environment. When released into the air, they are usually attached to small dust particles and tend to settle nearby. When dioxin contaminated dust or waste are released into lakes or rivers, most dioxins accumulate in the sediment. Once in the sediment they can be taken up by fish or crab. In soil, dioxins attach to soil particles and remain for long periods, where they can be re-released into the environment.

All people in the United States are believed to have some level of dioxins in their body fat and blood. Dioxins are found throughout the environment and most people are exposed to low background levels in the air, soil, or food. People that eat fish, meat, or dairy products that contain higher levels of dioxins may have a higher level of dioxin in their body.

Some of the documented health effects associated with relatively **low level** dioxin exposures include:

- Reduced liver function
- An increased risk for developing type 2 diabetes
- Changes in the immune system or the body's ability to fight disease
- Reproductive and developmental defects in children whose mothers are exposed during pregnancy and
- An increased risk of cancer

One documented health effect associated with considerably **higher levels** of dioxins exposure (work related or industrial accidents) is Chloracne which is a skin condition that looks like severe acne and is found more on the cheeks, neck, back, behind the ears, in the armpits, and in the groin area. Chloracne is more difficult to cure than the traditional acne and may cause scarring.



Even though someone is exposed to dioxin, this does not mean that they will experience health problems. The amount of exposure, the length of the exposure, and the route of exposure all have to be considered when determining if a person may or may not have the potential for developing health problems.

You asked about getting tested to find out whether or not you have dioxin in your body. Testing in humans is not recommended unless there is a definite reason to believe someone has been exposed to **high levels**. Although dioxins stay in the body fat for a long time, tests cannot be used to determine when exposure occurred. In order for an individual to be tested a physician must collect the sample, order the sample to be analyzed for dioxins, and send the sample to an appropriate laboratory. Labs will not release the results to a private citizen. Individuals that want their blood sampled must make their own contacts and arrangements through their personal physician.

There are two types of tests available for determining dioxin levels in humans that you may discuss with your personal physician.

1. Bioassay tests will provide an estimate of the total amount of dioxin and its congeners (related chemicals or dioxin like chemicals) in a sample. These tests use genetically modified mammal cells that respond when exposed to the dioxin-like chemicals in a blood sample. Bioassays are general used only for screening because the test can also respond to other chemicals that may be in the sample. An advantage of the screening level bioassay is a far lower cost than other test methods.
2. High-resolution gas chromatography/mass spectroscopy analysis is the preferred test to measure individual congeners as well as the total dioxin concentration. Although this test is more accurate it is also more costly and are not likely covered by insurance. From what I was able to find the cost varies from ~ \$1200.00 to \$1500.00
3. There are very few labs that can reliably measure dioxin in a blood sample. The labs listed below state that they can perform the dioxin analysis. DSHS does not endorse or assure the quality of service provided by these labs.

Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
916-673-1520

Pace Analytical Services, Inc
1700 Elm St, Suite 200
Minneapolis, MN 55414
612-607-6383

At this time a safe level of dioxin in the body has not been identified. In general, a lower level of exposure to these contaminants will result in lower levels in the body.

If you are concerned you may share this information with your private physician to determine whether or not you are a good candidate for testing. If the expected exposure happened several months to years ago it may not be worth the expense of the test due to the fact that the results would unlikely be able to give you any definitive answers.

If you would like some additional information specific to the San Jacinto River Waste Pits National Priorities site, the Department of State Health Services (DSHS) released a Public Health Assessment in November 2012. The public health assessment is used to determine if people are being exposed to hazardous substances and if

so, whether that exposure is potentially harmful and should be eliminated or reduced. Relevant health data, environmental data, and community health concerns were reviewed and addressed as part of the process. A copy of the complete document can be found at: http://www.dshs.state.tx.us/epitox/assessments/San-Jacinto-River-Waste-Pits-_PHA-Final-_10-29-2012.pdf

I hope that you find this information helpful. I understand that it does not address all of your concerns but I am hopeful that it may answer some. If you share this information with your personal physician and they have any questions or concerns they may contact Dr. Richard Beauchamp who is here in our office at 512-776-6434. If you have any other questions please do not hesitate to contact me.

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